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(54) **Manufacturing adjustment during article fabrication.**

(57) The use of neural networks has been employed to adjust processing during the fabrication of articles. For example, in the production of photolithographic masks by electron beam irradiation of a mask blank in a desired pattern, electrons scattered from the mask substrate cause distortion of the pattern. Adjustment for such scattering is possible during the manufacturing process by employing an adjustment function determined by a neural network whose parameters are established relative to a prototypical mask pattern.

FIG. 4
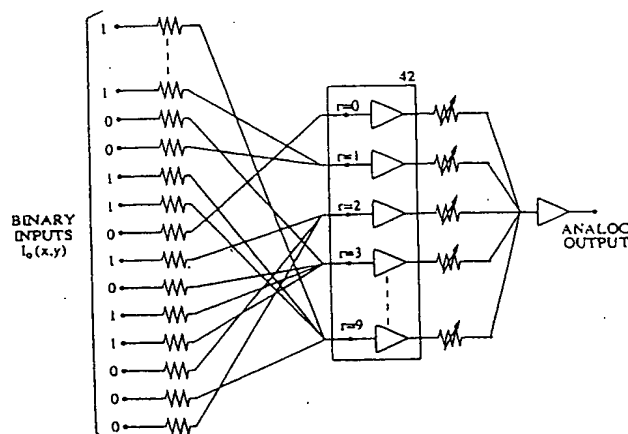
European
Patent Office

**EUROPEAN SEARCH
REPORT**

Application Number

EP 90 31 3203

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	PROCEEDINGS OF SPIE- THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING : APPLICATIONS OF ARTIFICIAL INTELLIGENCE VI vol. 937, 4 April 1988, ORLANDO,USA pages 470 - 473; CHEN: 'Adaptive (neural network) control in computer-integrated-manufacturing'	1	G 06 F 15/80 H 01 J 37/302
Y	* page 470, left column, line 1 - page 472, leftcolumn, line 33; figures PAGE,473 *	2-5,7	
Y	EP-A-0 105 214 (IBM) * page 1, line 1 - page 2, line 6; figure 1 * *	2-5,7	
X	ADVANCES IN INSTRUMENTATION. vol. 43, no. 4, 1988, PITTSBURGH US pages 1691 - 1703; CLEVELAND: 'Applications of artificial neural systems in robotic welding' * page 1691, line 1 - page 1696, line 39; figures 1-4 * *	1	
P,X	IJCNN INTERNATIONAL JOINT CONFERENCE ON NEURAL NETWORKS 1990 vol. 1, 17 June 1990, SAN DIEGO,USA pages 7 - 14; FRYE: 'Computation of proximity effect corrections in electron beam lithography by a neural network' * the whole document * *	1-7	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5) G 06 F H 01 J
A	IEEE 1989 ULTRASONICS SYMPOSIUM vol. 2, 3 October 1989, MONTREAL,CANADA pages 1007 - 1010; CONRATH: 'Applications of neural networks to ultrasound tomography' * page 1007, left column, line 1 - line 48 * * * page 1008, right column, line 27 - page 1010, right column, line 42 * *	6,7	

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	20 December 91	SCHENKELS P.F.